

FIG. 1

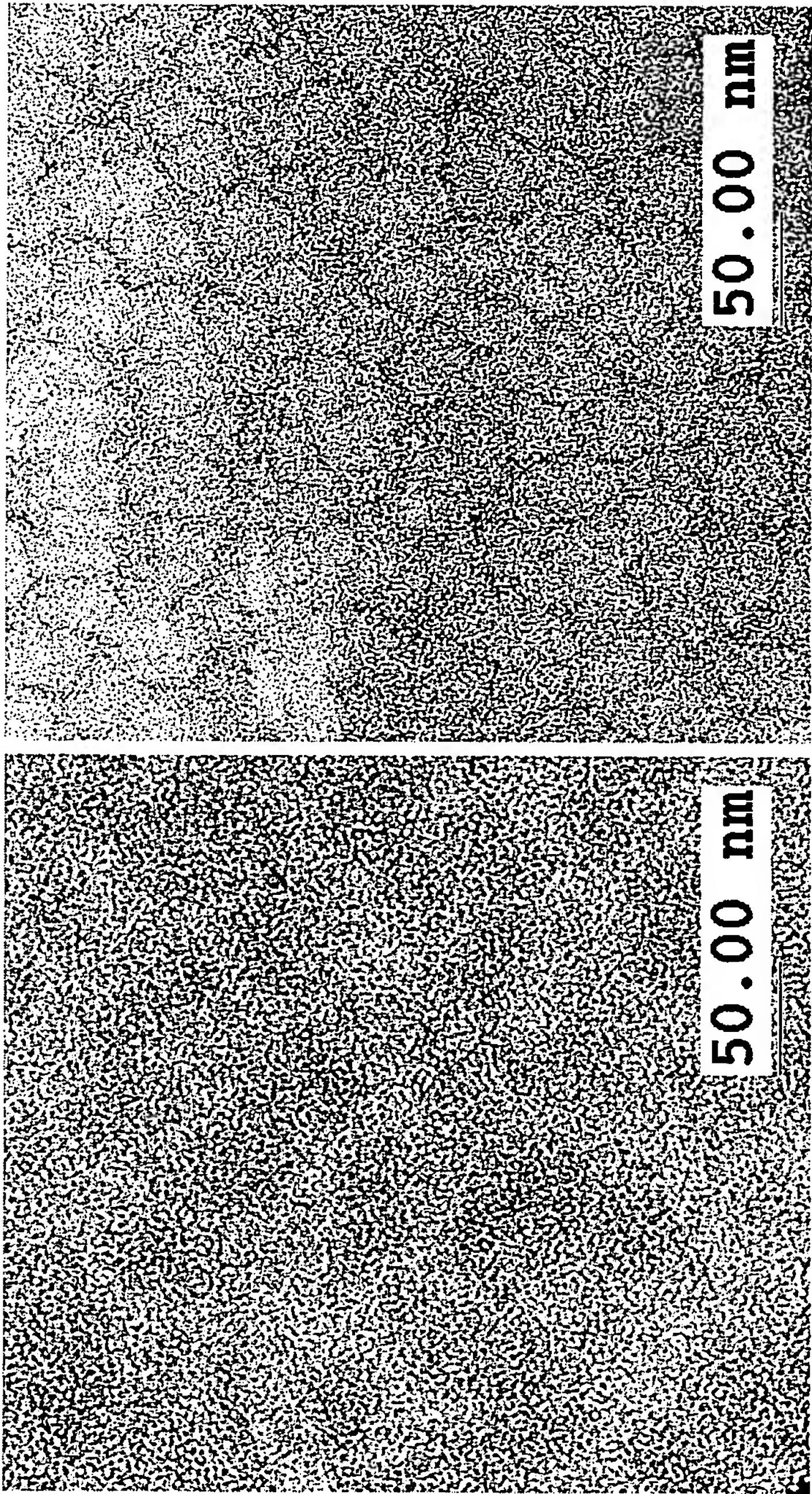


FIG. 2

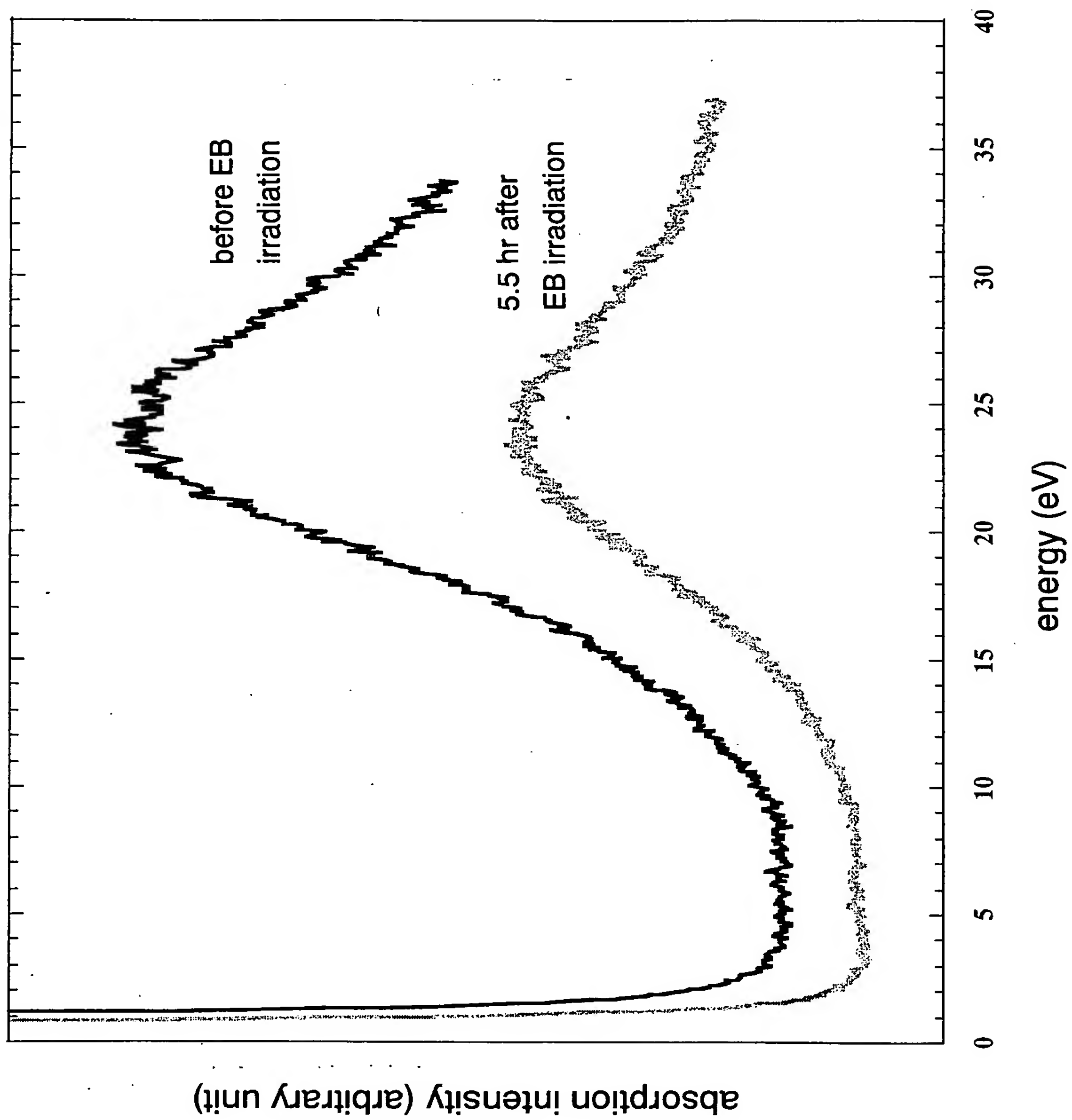


FIG. 3

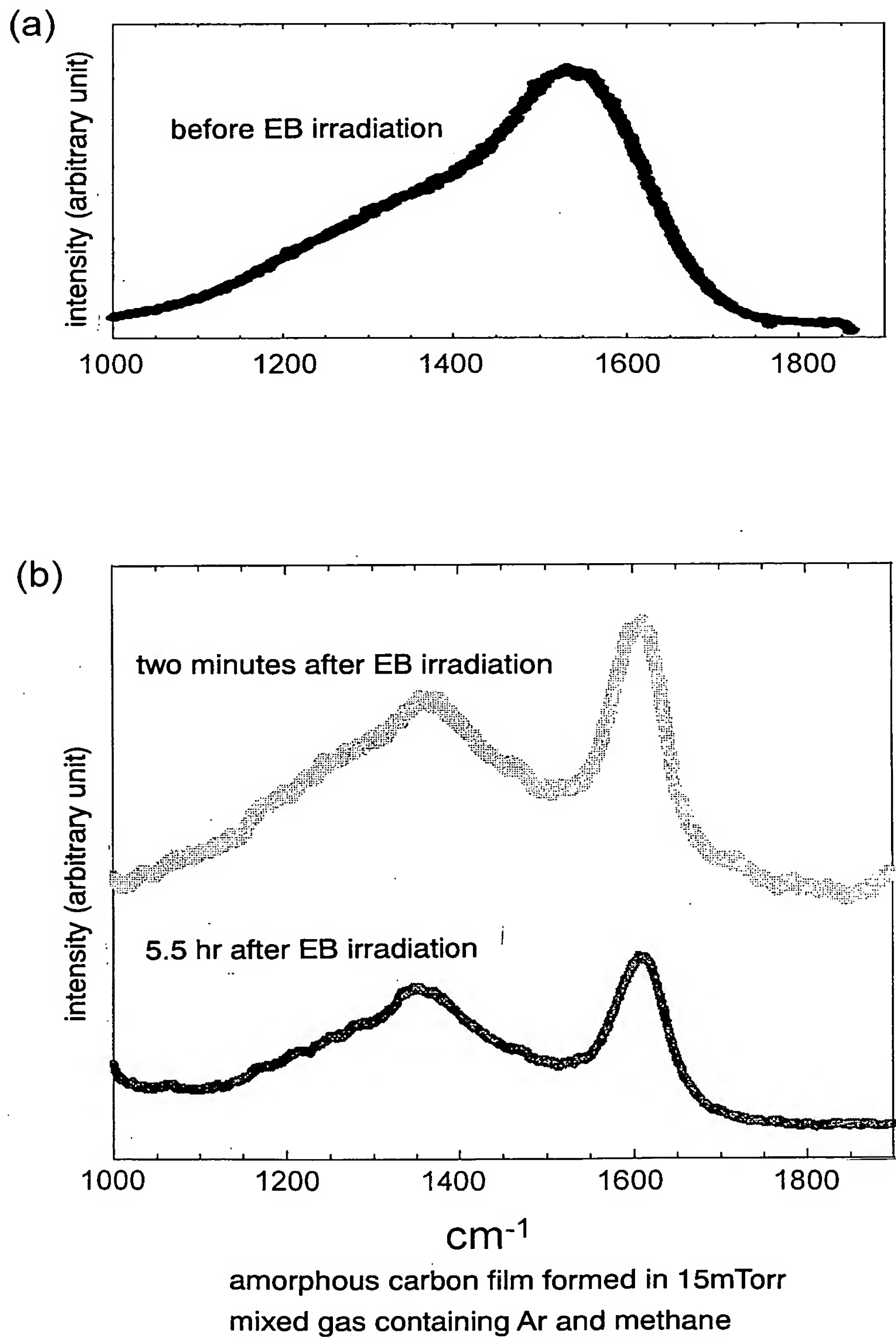


FIG. 4

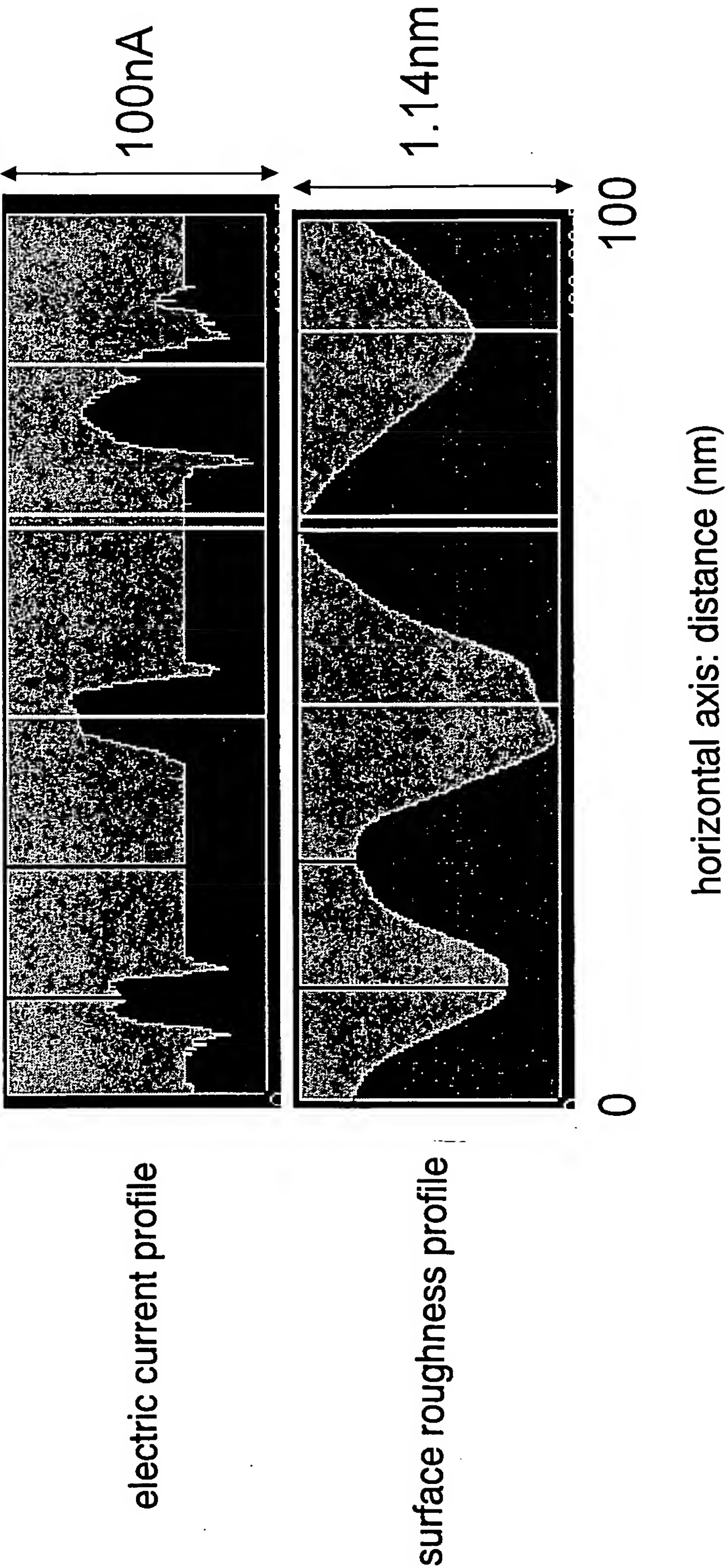


FIG. 5



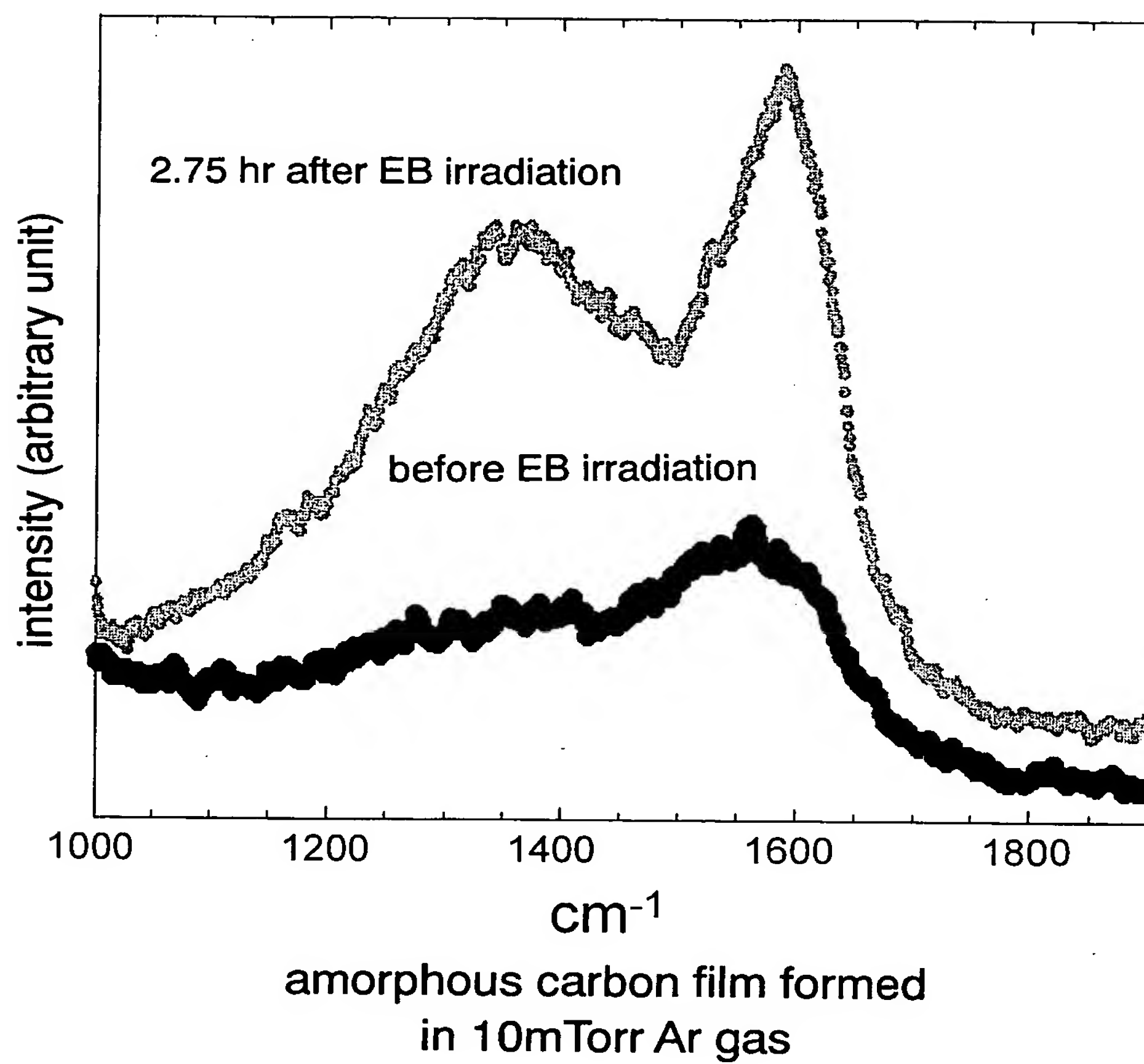
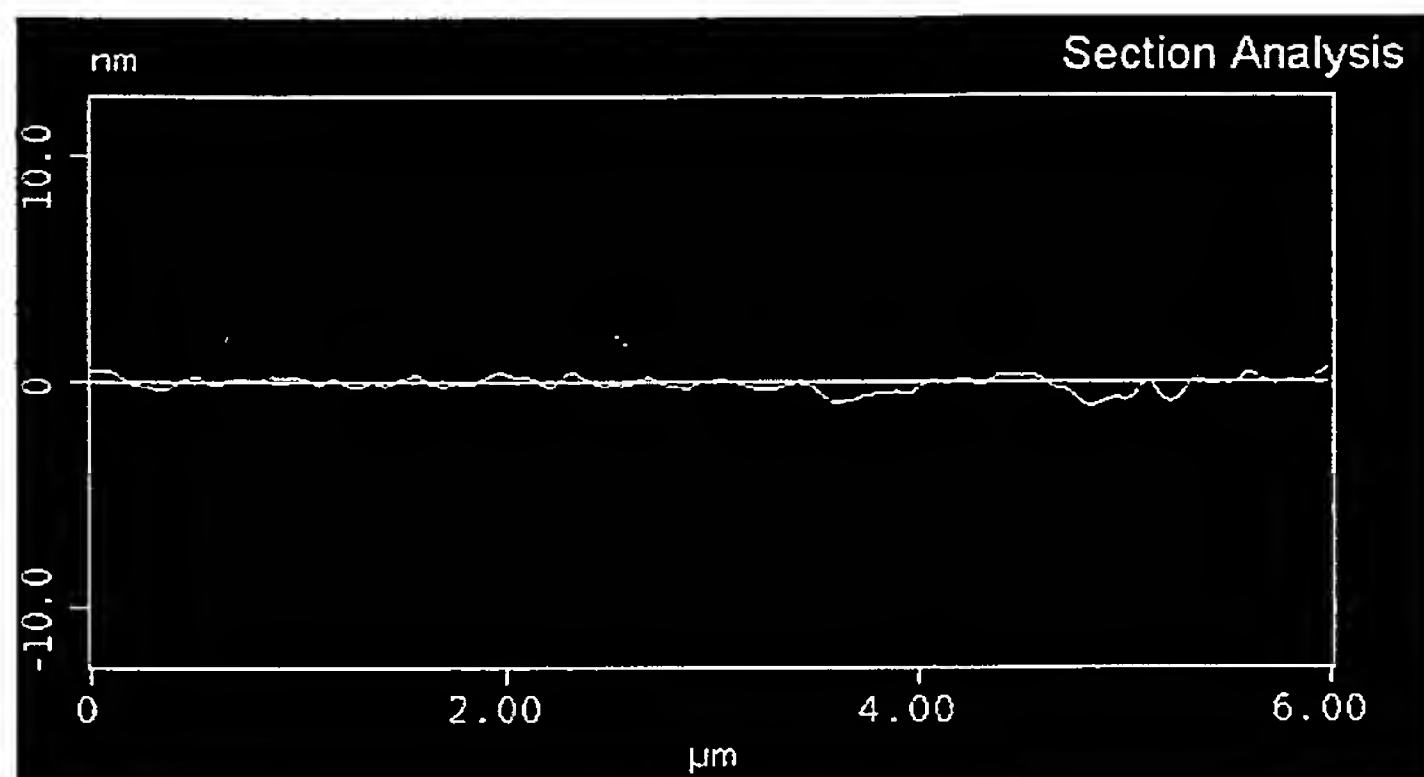
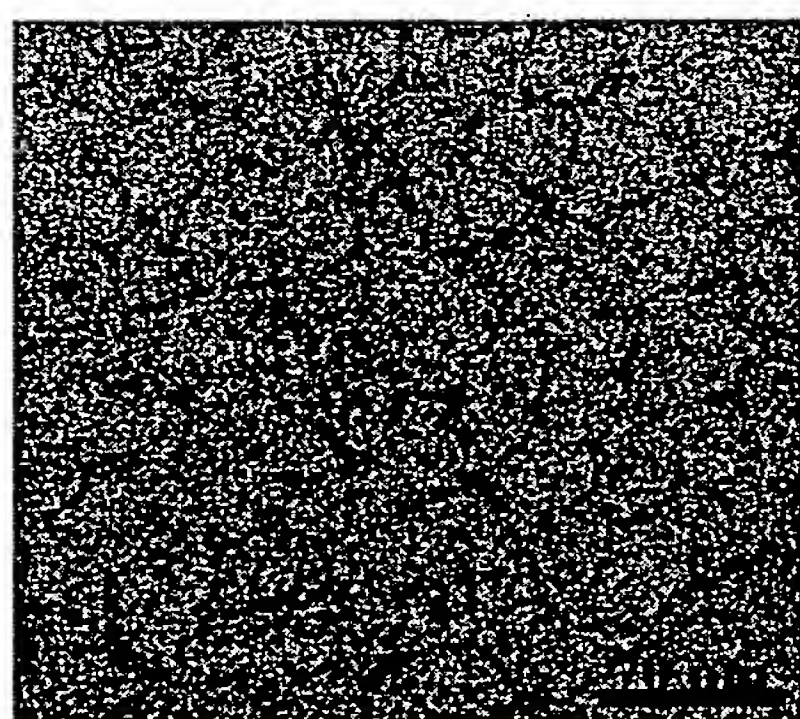
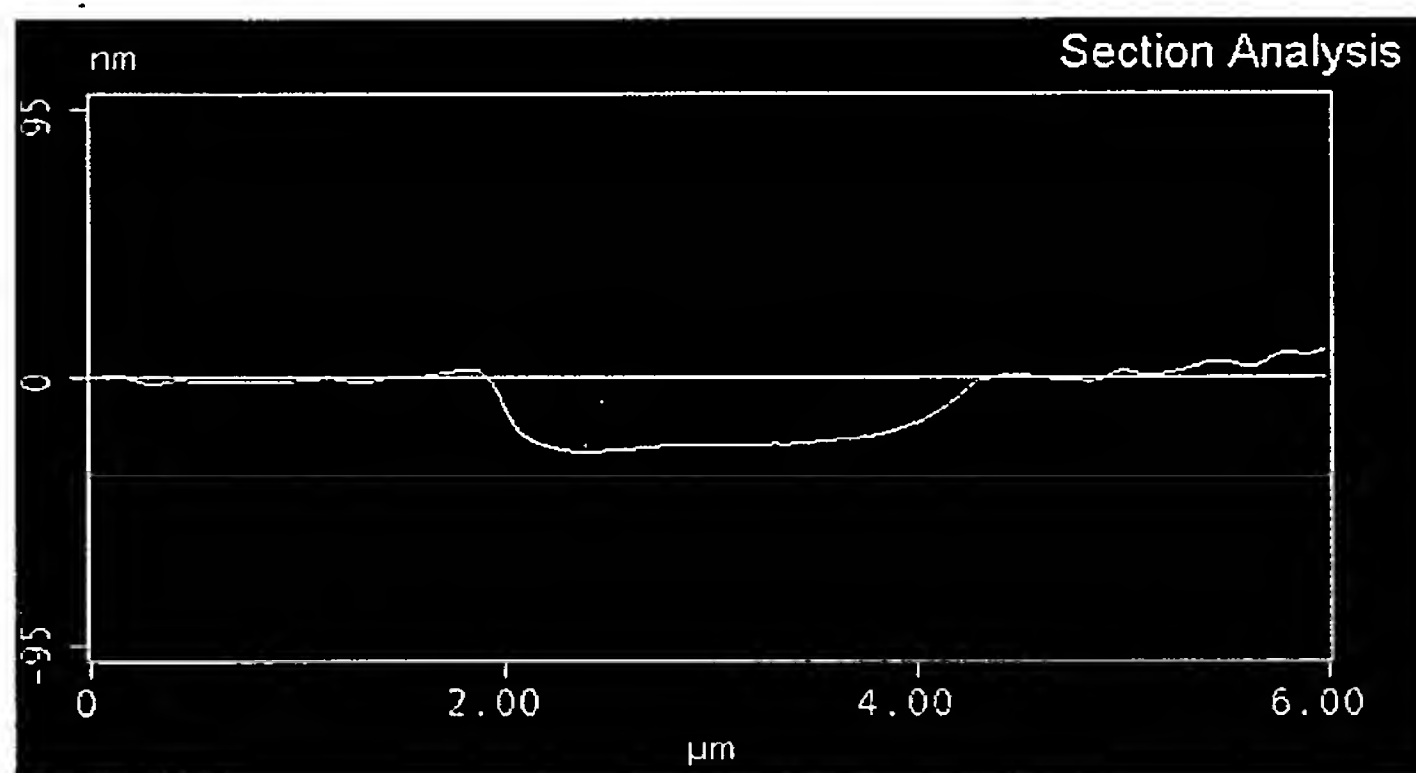
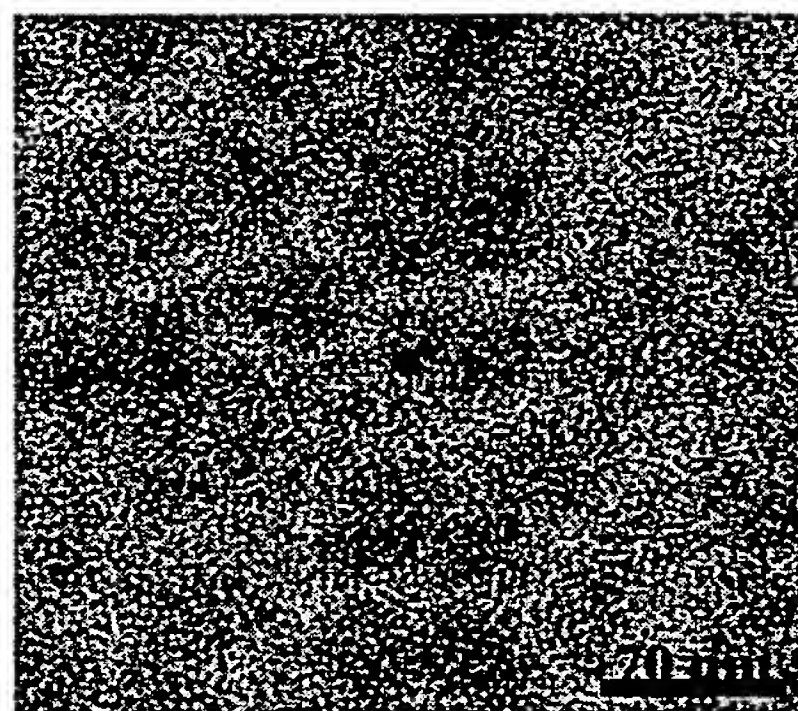


FIG. 6

(a) after electron beam irradiation



(b) before electron beam irradiation



(c) sputtered a-C film

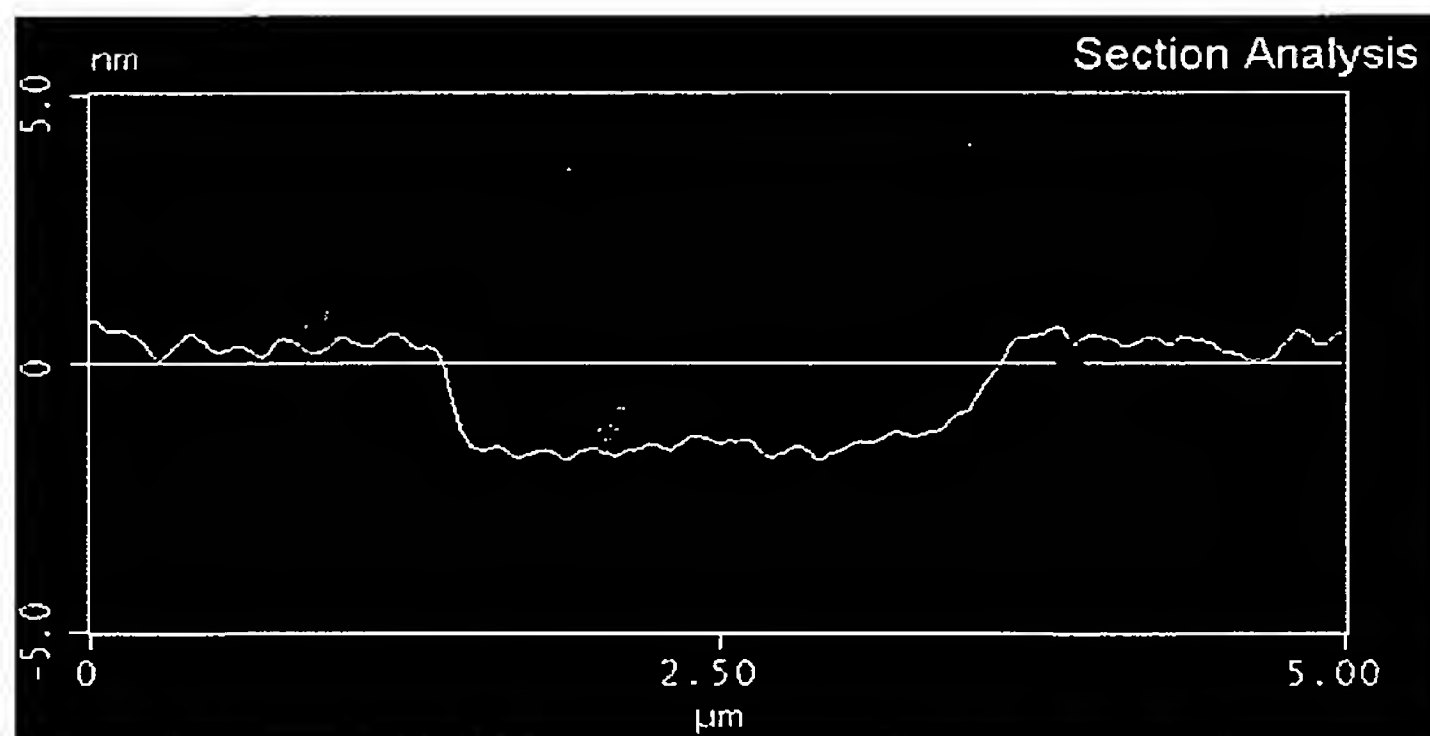
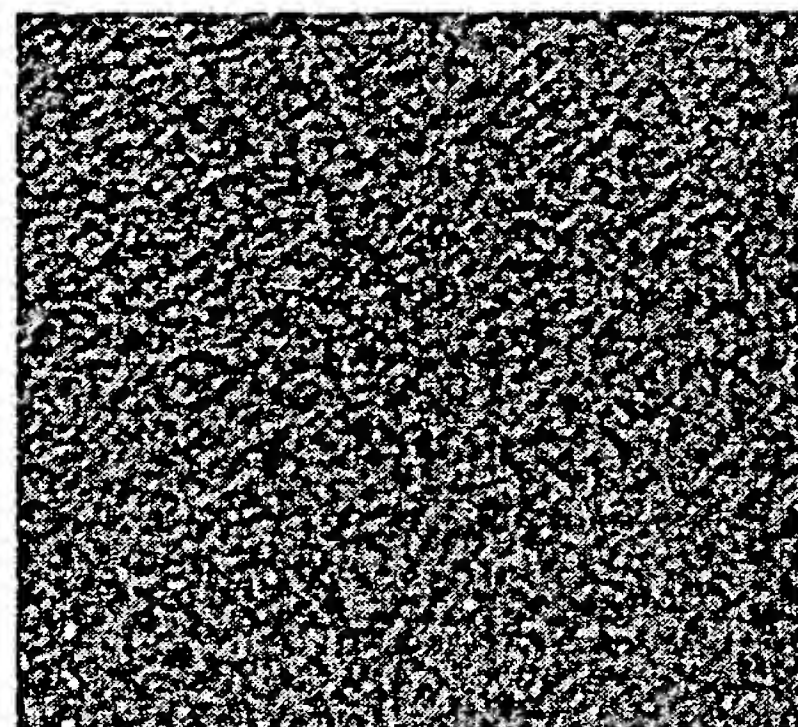


FIG. 7

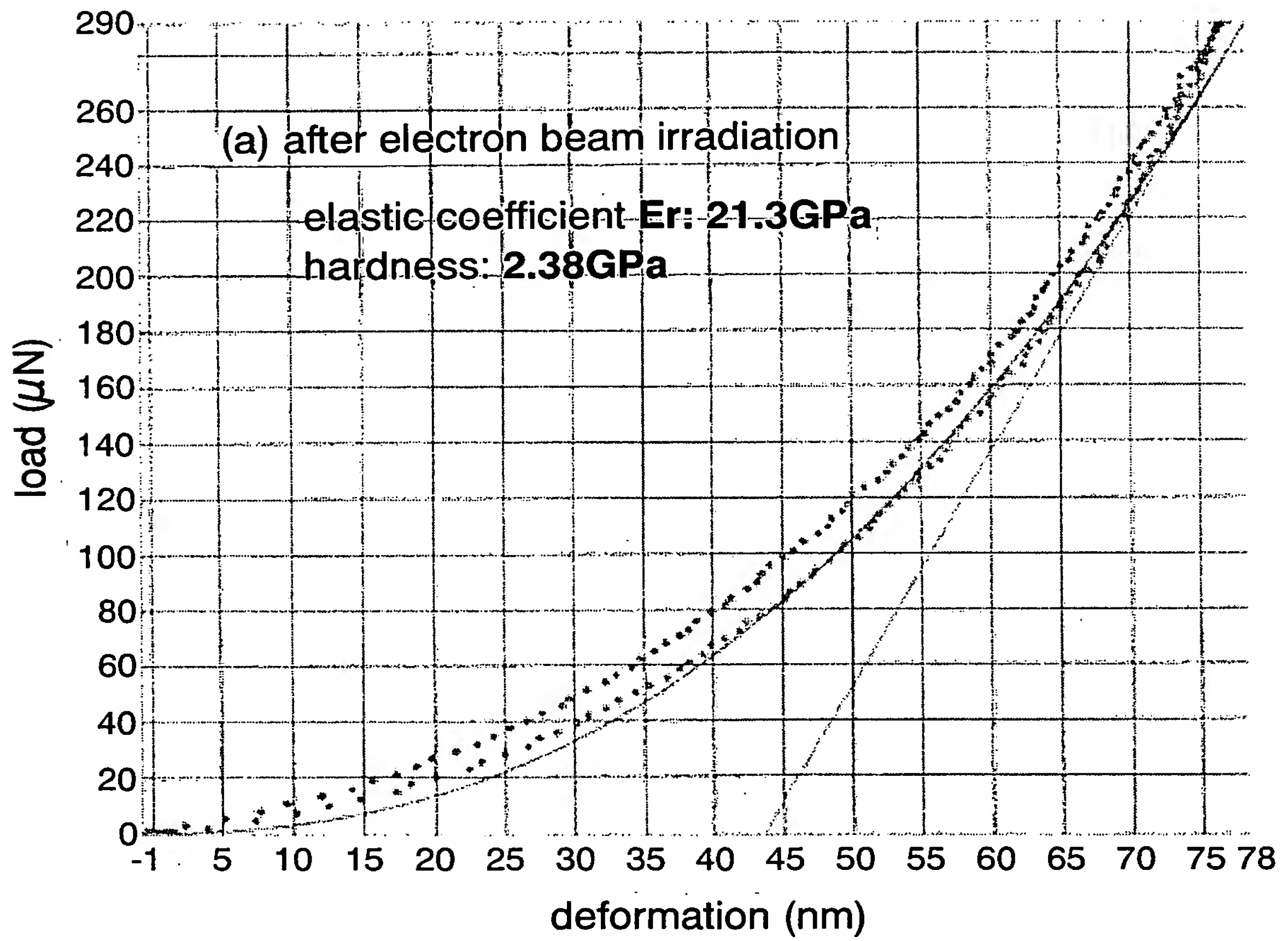


FIG. 8A



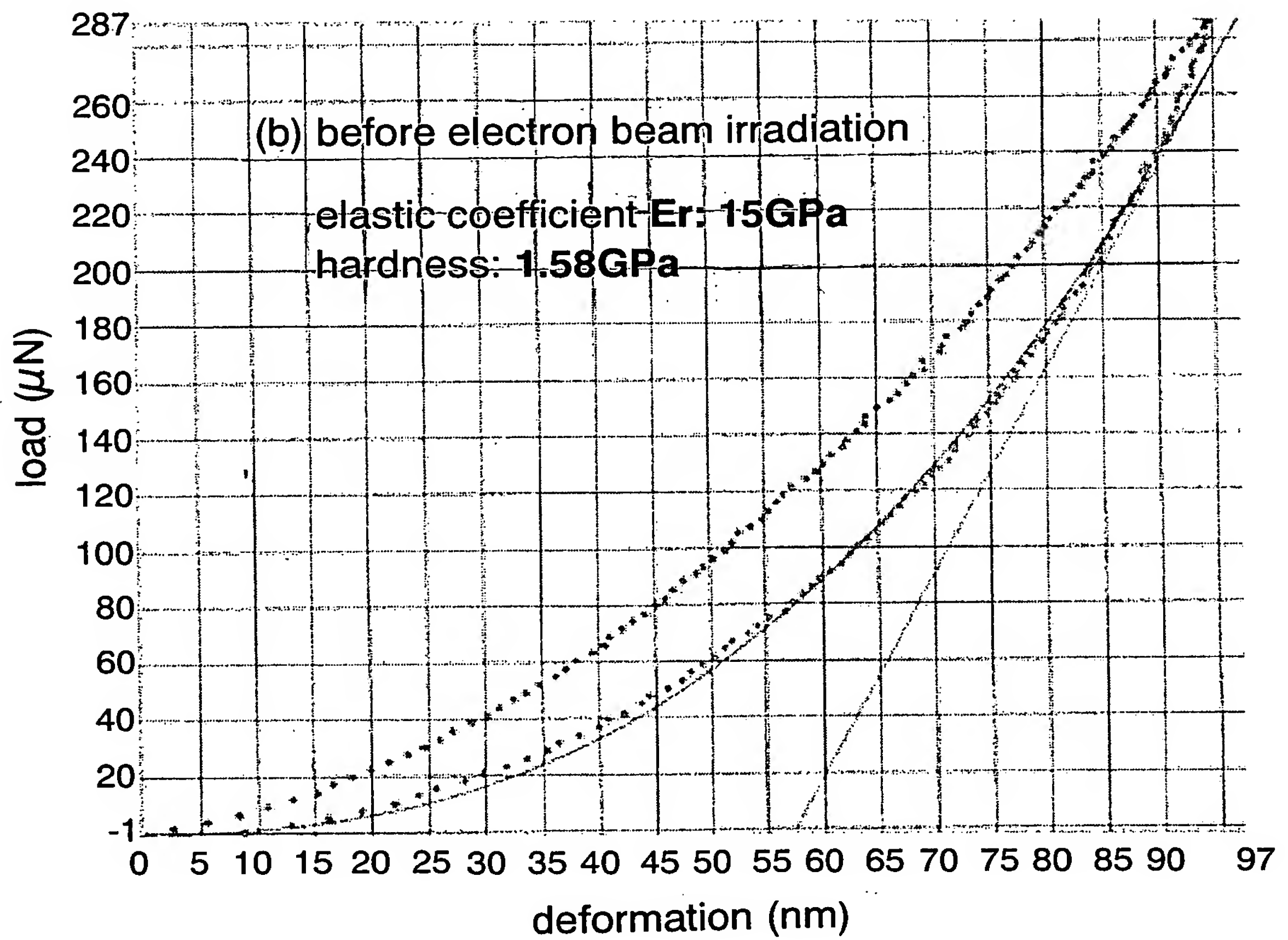


FIG. 8B

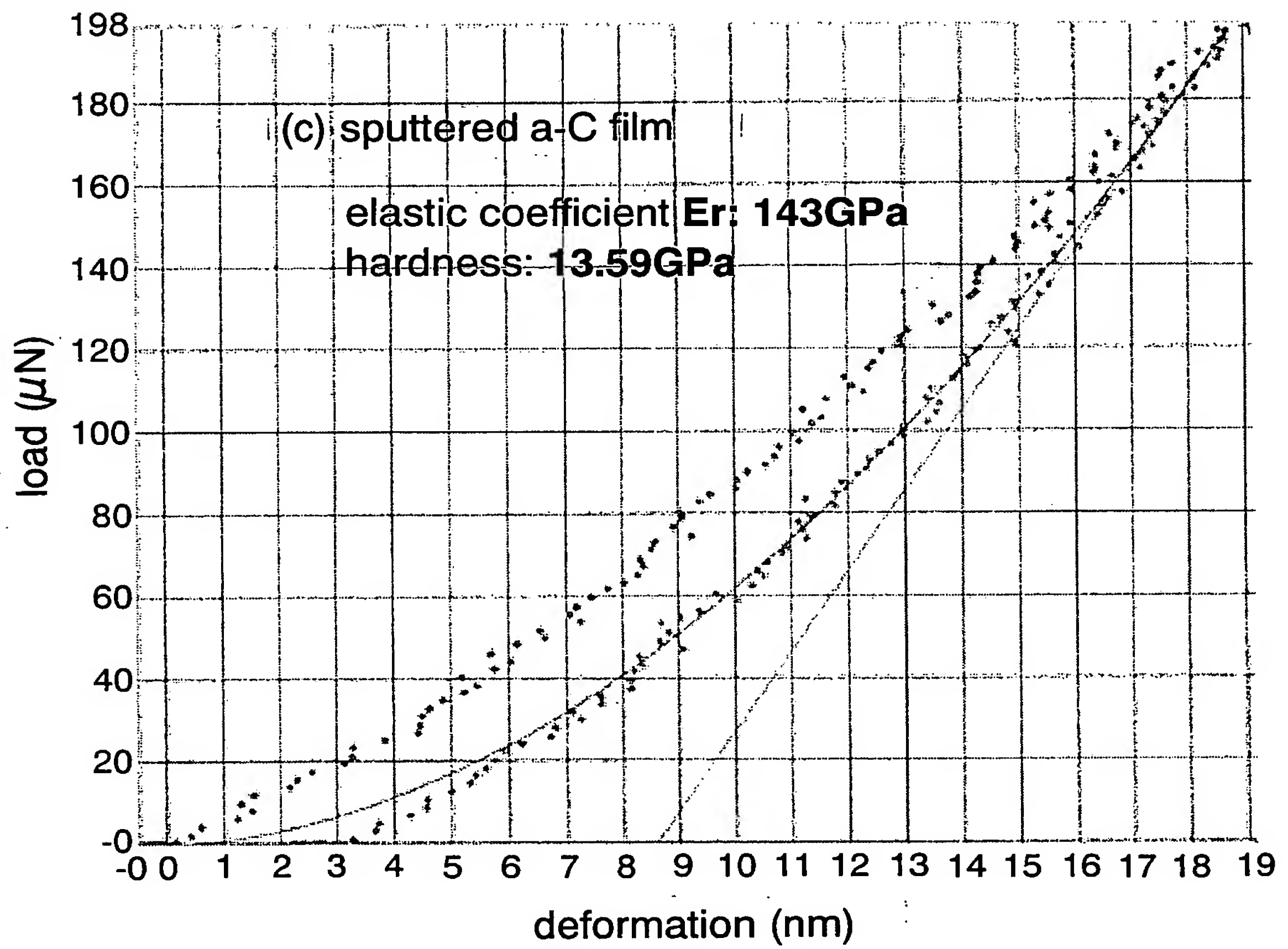
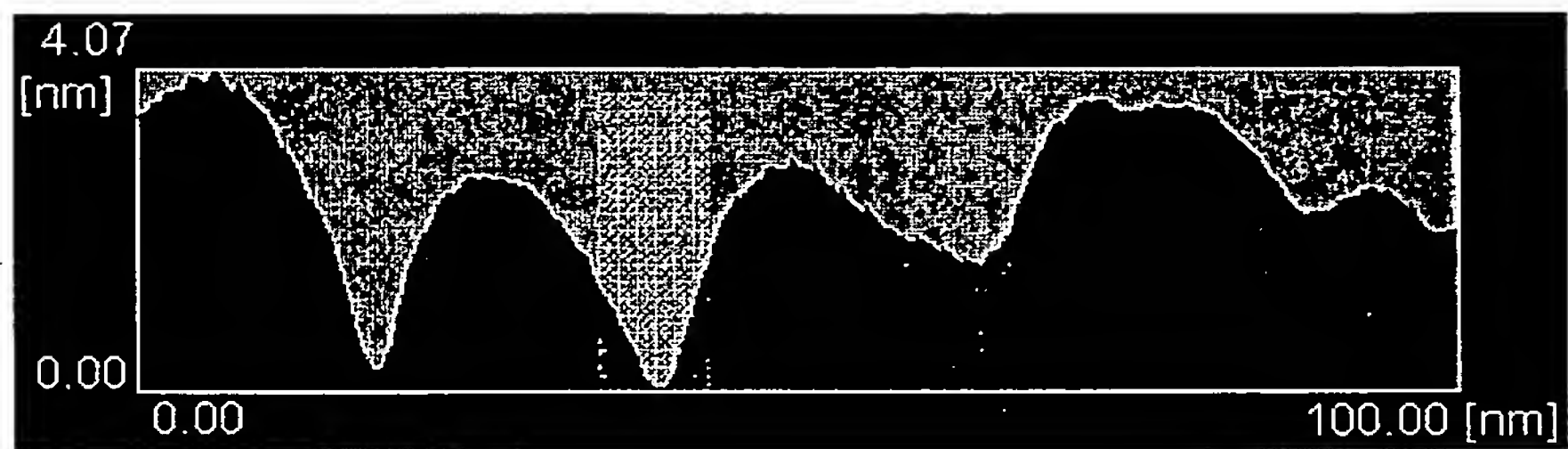


FIG. 8C

(a) surface unevenness

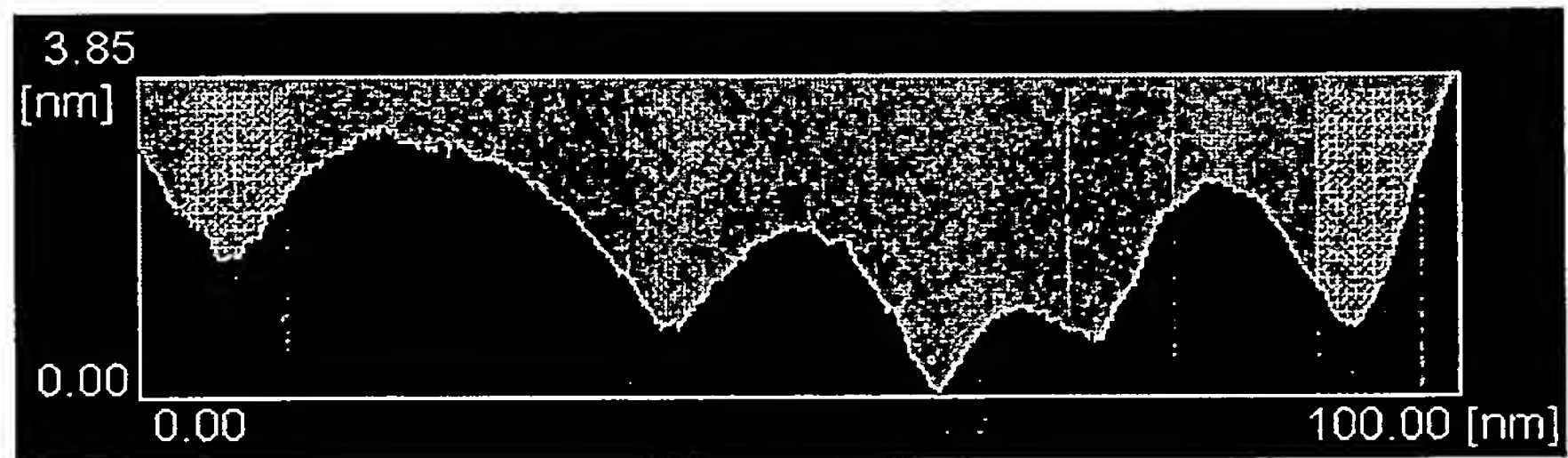


(b) cos image



FIG. 9

(a) surface unevenness



(b) cos image

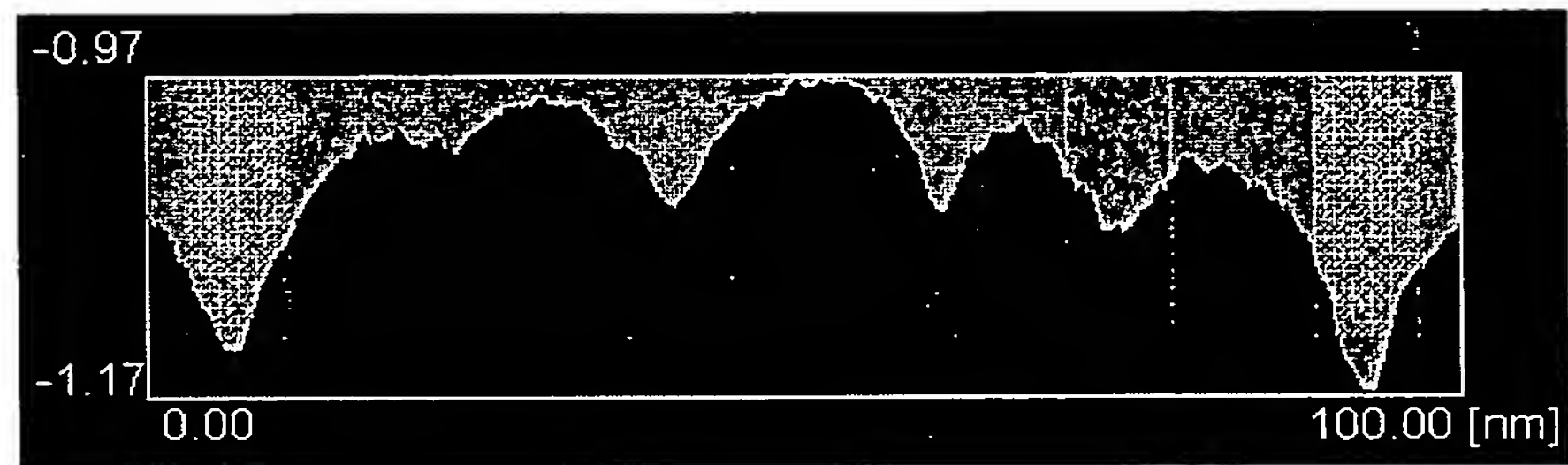


FIG. 10

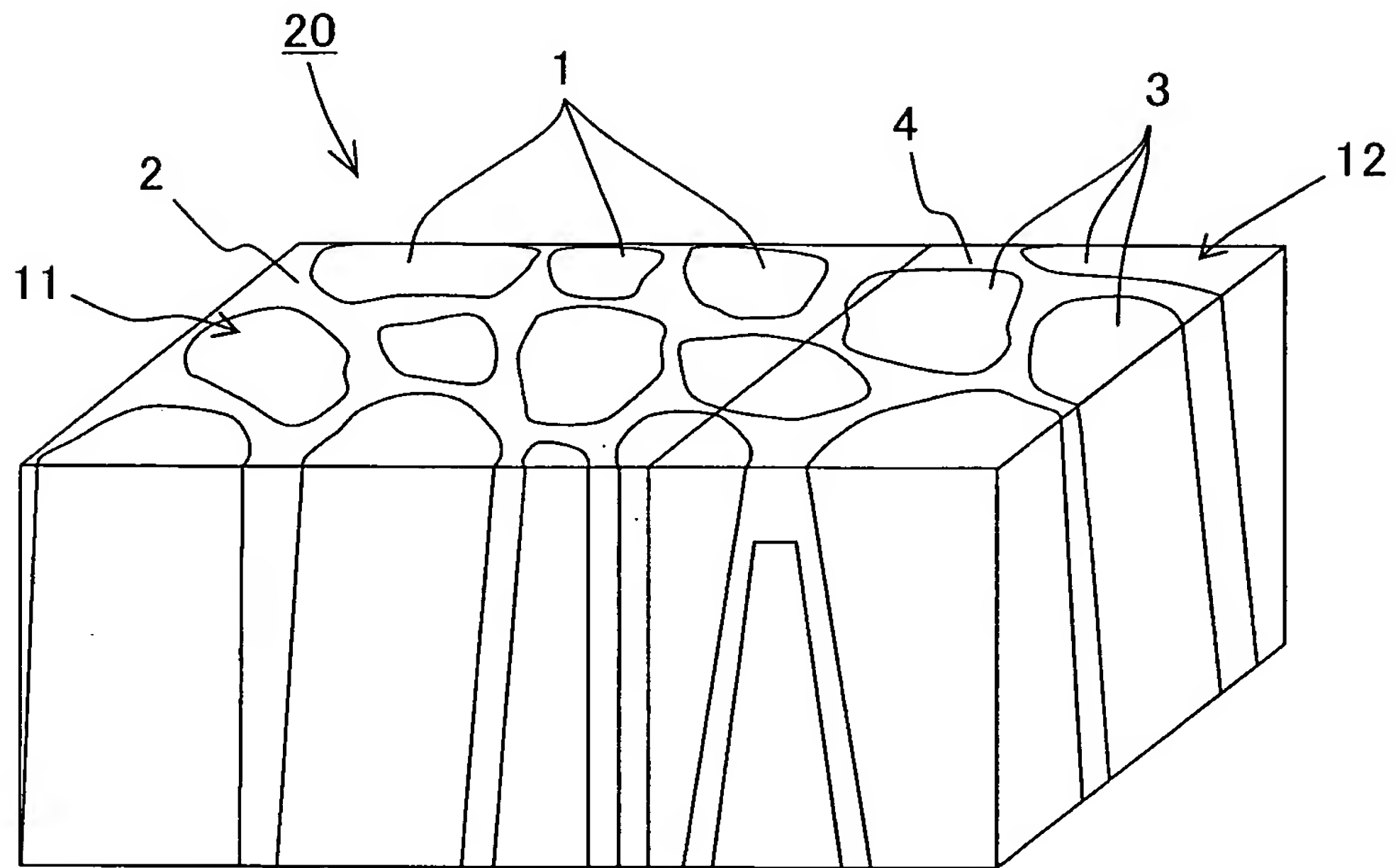


FIG. 11



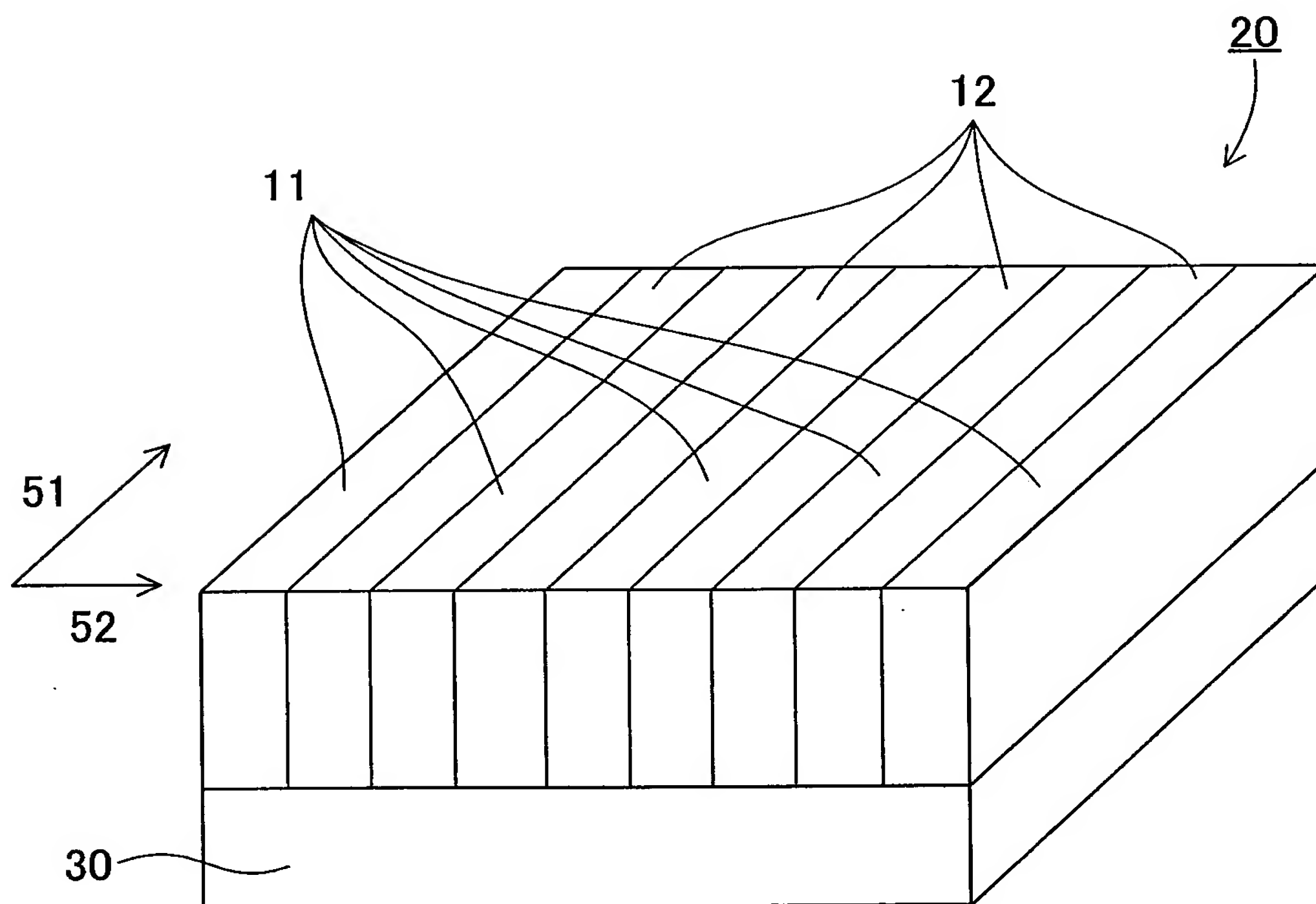


FIG. 12

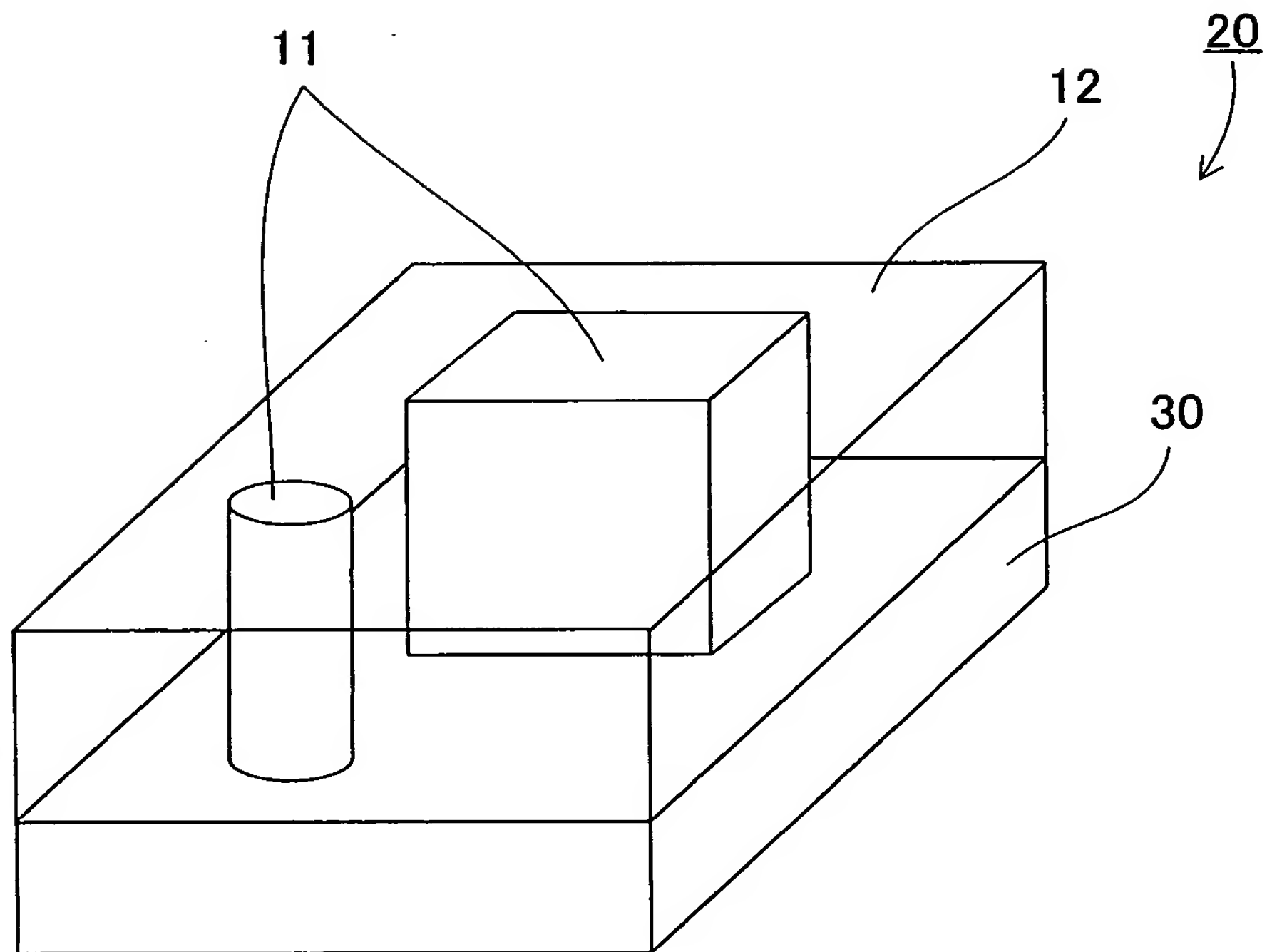


FIG. 13

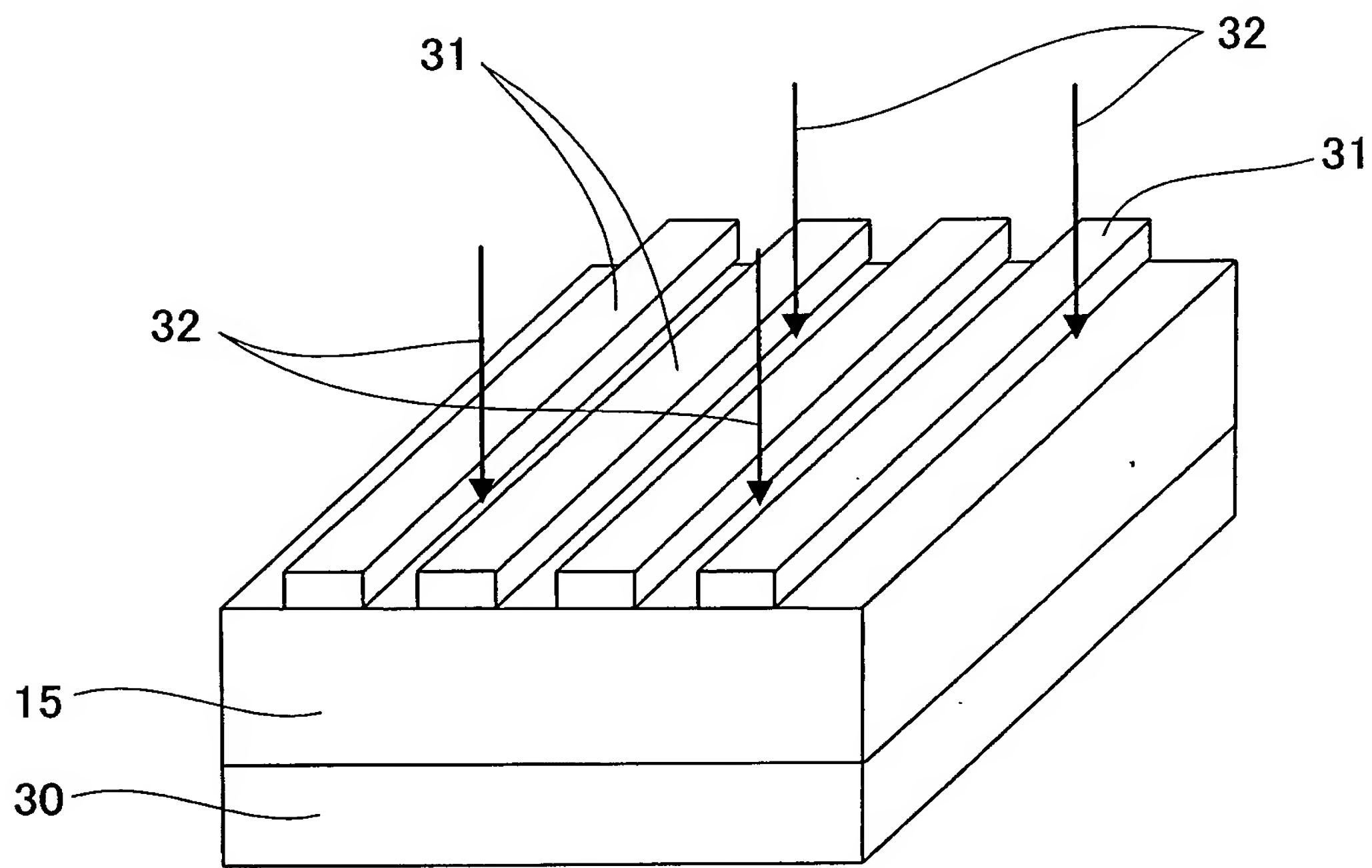


FIG. 14

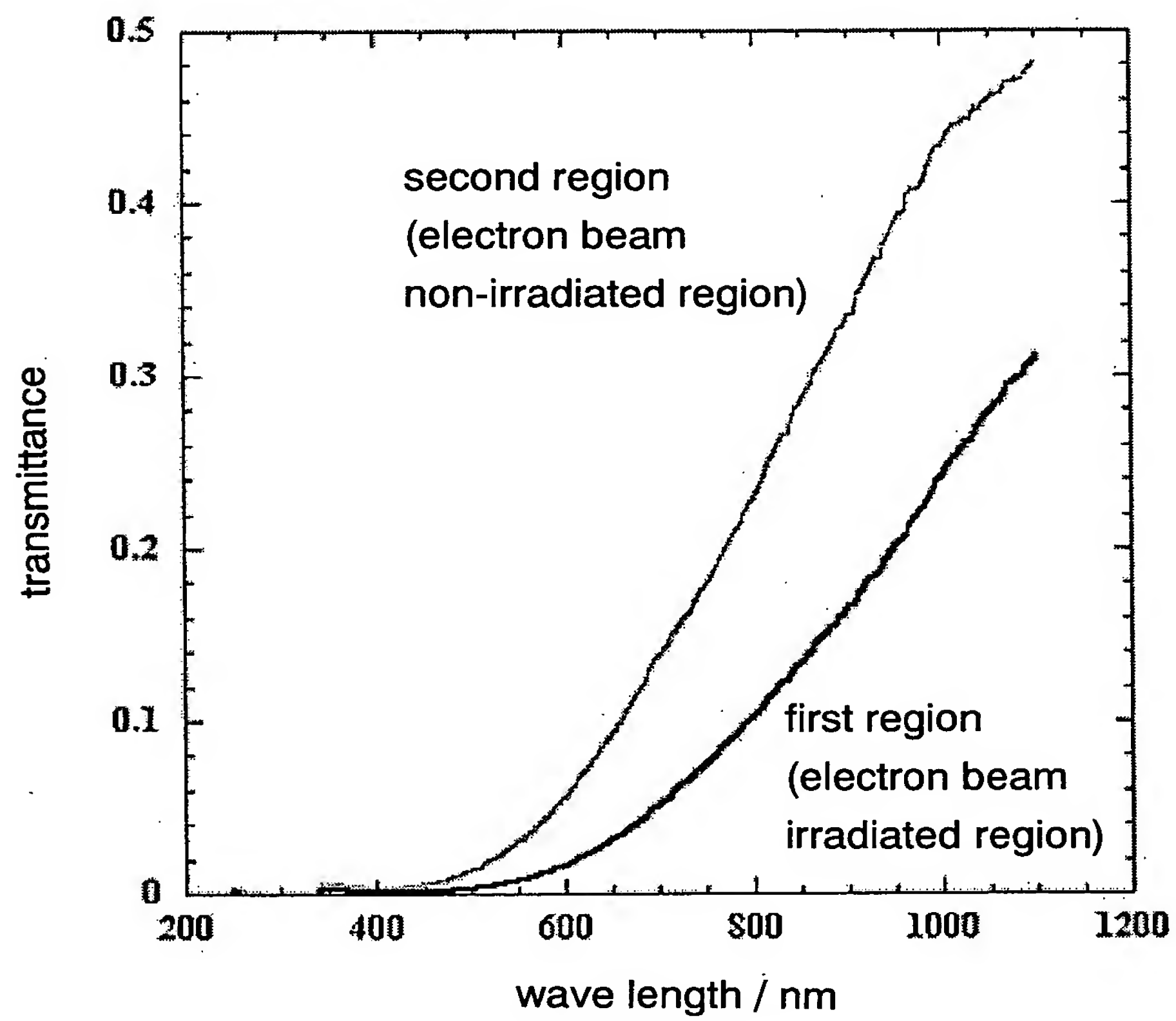


FIG. 15

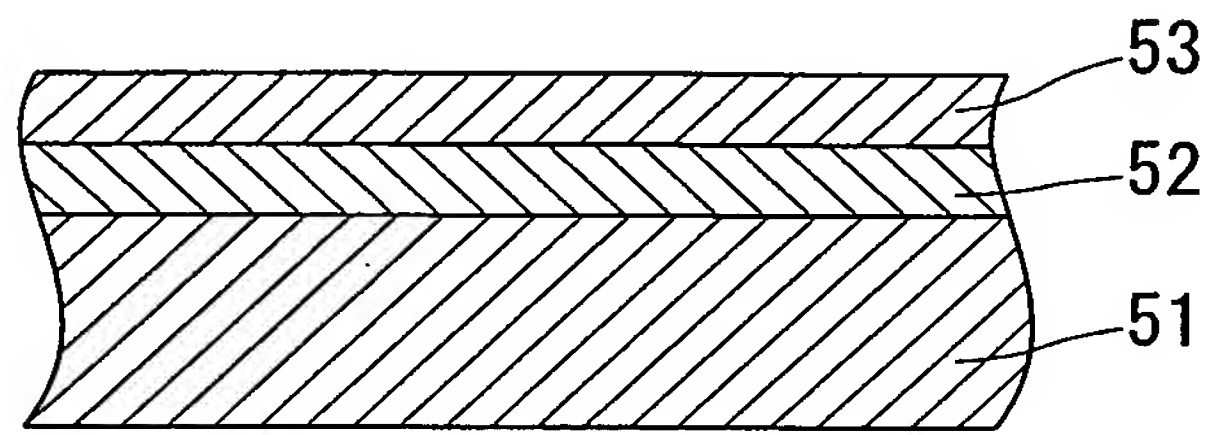


FIG. 16

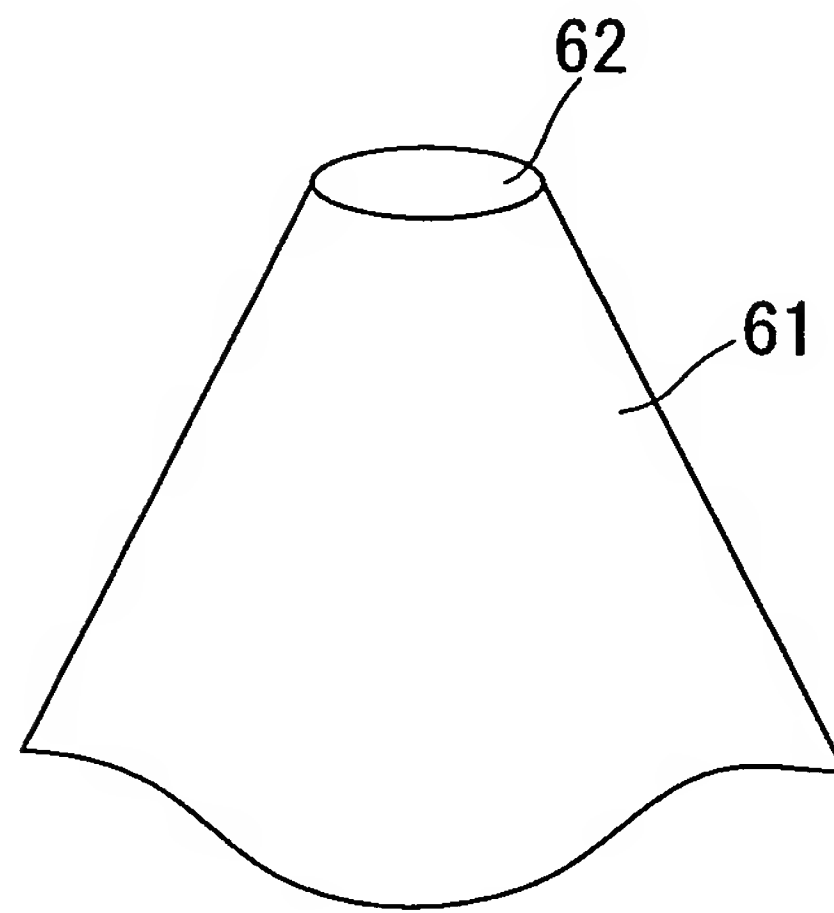


FIG. 17